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26 November 1957

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Space Travel and Reconnaissance Satellites

REFERENCES : A. Waterman's Letter Regarding Organisation of U. S. Space Travel Research Program, dated 19 November 1957

B. Dr. Scoville's Memorandum Regarding Space Travel and Reconnaissance Satellites, dated 25 November 1957

1. This memorandum will serve as my brief comment on Reference A, of which you sent me a copy, and also my reaction to Dr. Scoville's views in Reference B.

2. I have only the most superficial knowledge of the way in which research and development projects are handled in the Pentagon, and I have not had an opportunity to discuss the subject of Mr. Waterman's letter with others better informed than myself. Nevertheless, my first reaction is a rather strong dissent from Dr. Scoville's view and strong agreement with Mr. Waterman's view. Reading between the lines of Dr. Scoville's argument, he seems to me to be making two points on which I will comment.

3. First, he seems to me to be saying in rather general terms that any large, highly technical, research and development project stands a considerable chance of failure if it is undertaken anywhere in the Government except in the military establishment. He refers specifically to the trouble encountered by the Vanguard Program, in part by reason of its separation from military programs. I am not convinced however that even large and costly programs cannot be handled outside the military establishment if they are given the funds and the priority. The oft-quoted Manhattan

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Project was done in just this fashion. Moreover, I think it is high time that we did develop in this Government organizations outside of the Department of Defense capable of doing jobs of this sort.


4. Second, he makes the entirely valid point that any development looking toward manned satellites or space ships would use military rockets and will certainly have to call on the know-how derived from military missile development. Granted the truth of this proposition, I question whether it follows that a program involving a quite different application of rockets and rocket components originally developed for military use has to be under military control. There is after all an intimate relationship between military development in aviation and resulting advances in commercial technology. There will in any event have to be separate programs for the proposed non-military applications, and these will have to make use of and have access to components originally developed in the military missile programs. I see no reason why the separate programs should not be in a different Department of the Government.

5. The above are essentially rebuttal points. The affirmative arguments in favor of non-military control seem to me clear. I think it highly undesirable to put a military label on every major technical development sponsored by the United States Government. Moreover, if we can once break the pattern, I see no reason to believe that development work cannot be organized better outside of the Pentagon than inside. Most of the real work is done in the universities, the research organizations, and the industrial corporations anyhow. The key to the success of a civilian-managed effort, I feel, is the necessary priority and the funds.

6. I have concurred in the draft letters of reply prepared for your signature, since these are only acknowledgments. I will discuss this matter further with Dr. Scoville and with others in order to see if they and I can present you with any less strongly disagreed opinions.


Special Assistant to the Director
for Planning

Attachments: As Stated
cc: AD/SI

 (26 Nov 57)

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1-AD/SI

✓ 2-SA/P/DCI *Sully*

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ER 9-8899

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Space Travel and Reconnaissance Satellites

REFERENCES: 1. Waterman's Letter Regarding Organization of US Space Travel Research Program dated 19 November 1957.

2. American Rocket Society Letter dated 12 November 1957, subject, "Space Flight Program"

1. This memorandum suggests action on the part of the DCI. Such requested action is contained in paragraph 3.

2. The subject of the US program for development of satellites for reconnaissance purposes and for space travel has been recently given increased attention both within and without the government. The Science Advisory Committee at its meeting on 22 November considered the importance of research in these fields. While initially some of the members were skeptical and felt that it was being over-played, I believe that by the end of the discussion most agreed that this was a tremendous new field of research. It was further agreed that the satellite or space ship should only be considered of interest as a vehicle or platform upon which to carry out experiments of fundamental scientific interest or for operations of military and intelligence significance. I believe Killian has organized a panel to consider programs in these fields.

3. The two referenced letters propose special organizations outside the Defense Department for the conduct of research in these fields. Undoubtedly the organization for such work will be given considerable thought in the near future and this agency has an important interest in the decisions that are reached. However, the problem is very complex and I believe caution should be exercised in committing yourself to any proposal until the proposals are clearer. I believe that Mr. Bissell is probably in the best position to establish the Agency views. In the meantime, I believe you should answer the enclosed letters cautiously expressing interest but not committing yourself. Proposed draft replies are enclosed.

4. I personally feel that this program really belongs in the Defense Department since the largest cost of work in this field will be in developing and using missiles to get the satellites in orbit or the space ship into outer space. If the research was conducted by a group outside the

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Defense Department, then they would always have to come begging to the Defense Department for funds and support and this is not likely to be too easily forthcoming when this will be competing with military services. On the other hand, I do hate to see the research in this field bog down in the morass of the present military research programs. If the newly reinforced position of Assistant to the Secretary of Defense for Missiles and Satellites really has some teeth and can make some decisions which stick, then some of the present difficulties might disappear. I do not believe that the arguments voiced by Dr. Waterman strongly support his views that the responsibility should be outside the Defense Department. I do not believe he has learned the lesson from the failures in the VANGUARD Program.



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HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

Enclosures:

1. Proposed Reply to American Rocket Society
w/incoming letter
2. Proposed Reply to Alan Waterman w/incoming letter

cc: DDCI
DD/I
SA/Planning/DCI

Executive Registry
9-8686/2

NOV 29 1957

Dr. Alan T. Waterman
Director
National Science Foundation
Washington 25, D. C.

Dear Alan:

I appreciate very much your having forwarded me the copy of your letter to Mr. McKelroy relative to the organization for research on space travel. This agency has considerable interest in this subject and is glad to keep abreast of all proposals in this field. We are also formulating our views on programs in this field, and your views will be of assistance to us in arriving at our position. I should be glad to discuss these with you when they are further crystallized.

Sincerely,

Allen W. Dulles

Allen W. Dulles
Director

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OSI/HScoville:gs (25 Nov 1957)

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Remarks:

Dick: The Director signed the letters to Messrs. Waterman and Truax. He would, however, like to speak to you about the little difference of opinion between you and Pete Scoville at some convenient time.

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FROM: NAME, ADDRESS AND PHONE NO.

DATE

29 Nov 57

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NATIONAL SCIENCE FOUNDATION
OFFICE OF THE DIRECTOR
WASHINGTON 25, D. C.

November 19, 1957

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The Honorable Allen W. Dulles
Director, Central Intelligence Agency
Washington 25, D. C.

Dear Allen:

By the enclosed copy of my letter to Secretary McElroy, I am bringing to your attention a matter which seems to me of very considerable importance and immediacy. It is abundantly clear that the country is anxiously awaiting word as to the intentions or plans of the Government to proceed with a program in the exploration of space.

Apart from the point of view I have taken in this letter to Mr. McElroy, I believe it is most important and urgent that this question receive prompt consideration by the interested agencies of Government. This includes at least the Department of State the Department of Defense, the Central Intelligence Agency and the National Science Foundation.

This matter has been discussed in a preliminary way with Dr. James R. Killian, Jr.

Sincerely yours,

Alan
Alan T. Waterman
Director

Enclosure

(Unclassified upon removal of enclosure)

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NATIONAL SCIENCE FOUNDATION
OFFICE OF THE DIRECTOR
WASHINGTON 25, D. C.

November 15, 1957

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The Honorable Neil H. McElroy
Secretary of Defense
Washington 25, D. C.

Dear Mr. McElroy:

I am taking this occasion to write you concerning future plans for a United States satellite effort--this matter of obvious present urgency. Insofar as such effort may take the form of a scientific undertaking, the National Science Foundation and its National Science Board are involved by responsibilities assigned in the National Science Foundation Act of 1950 and Executive Order 10521 of 1954.

We are pleased with your announcement that the Army will go forward with its project to back up Project Vanguard. It is my understanding that the Army project is intended to supplement Vanguard as an undertaking for the International Geophysical Year. In this connection, of course, it is clear that careful coordination should exist both between the two projects and with the United States National Committee for the International Geophysical Year (under the National Academy of Sciences-National Research Council) which has cognizance of the scientific programs of the International Geophysical Year, including the satellite project in the latter, subject of course to limitations of payload and feasibility set by the Department of Defense.

With regard to the future of the U. S. plans regarding space exploration, looked at objectively there seem to be only three possibilities as follows:

- A. Stop the U. S. program after the International Geophysical Year

The Honorable Neil H. McElroy

November 15, 1957

B. Consider possible international (or Free World) collaboration.

C. A determined program to match Russia's challenge.

Possibility A. seems completely out of the question; this is not a field we can now ignore in view of the opinion of our own country and of the world. Possibility B. would be very difficult of execution, even if we should like to do so, especially since we would be leading from weakness. Its only asset might be a movement toward peaceful cooperation somewhat like the Atoms for Peace plan.

It seems to me that we have no alternative but plan C. (a halfhearted effort will not do). In that case, there is certainly no question that a really determined effort must be made on the highest priority basis. This will be very expensive and unfortunately will necessarily draw skilled manpower to some extent from the military programs, even if only part-time. However, it is quite likely that we have on tap manpower resources which can be turned to this purpose and also likely that such an independent effort along these lines may provide fresh ideas which could be useful to the military.

Such an effort unquestionably requires a special organization, with a strong director. I believe there are strong reasons for setting up such an organization outside the Department of Defense. This is no reflection upon the competence of the Department of Defense, either in this area or in accomplishment of high priority programs. The primary reason is that in view of the Russian approach, which emphasizes science and space travel, there will be a very unfavorable attitude throughout the world if the U. S. program were known to be associated with the military. (The Russians can do this and keep it quiet; we cannot.) Besides, it is of great importance that this be known to be a civilian scientific undertaking, in order to have the enthusiastic and wholehearted cooperation of scientists and the public generally.

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The Honorable Neil H. McElroy

November 15, 1957

This is one program which, in my opinion, warrants a Manhattan project type of organization. An effective set-up requires careful consideration, but the central idea should be the establishment of a center financed by the Government by contract with a civilian agency, in order to provide sufficient flexibility. Such an organization should have the full cooperation of the Department of Defense. It should also have authority to conduct or subcontract such research and engineering as needed. Possible goals can readily be outlined and should have to be considered with care. The announced purpose should be scientific exploration of the earth's environment and outer space.

Such a set-up would also have the advantage of serving to deflect attention from Defense projects of similar or related character but with military goals and also to protect security classification aspects of the latter.

Interested agencies which could unite in its support would be the National Science Foundation, the National Academy of Sciences-National Research Council, and the American Rocket Society, together with scientific societies such as the American Geophysical Union and others with particular related interest.

I should be happy to discuss this matter with you at your convenience as would Dr. Brenk, President of the National Academy of Sciences.

Sincerely yours,

Alan T. Waterman
Director

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NOV 11 1957

Mr. Robert C. Trank
President
American Rocket Society, Inc.
500 Fifth Avenue
New York 36, New York

Dear Mr. Trank:

Your letter and enclosed report have been studied with considerable interest. Your thoughtfulness in considering the Agency's possible interest in your proposal is greatly appreciated.

Although I cannot comment directly on the specific recommendations contained in your letter, the views of such a highly qualified group on a subject of such current national importance are always welcome. I can assure you that personnel in my organization are cognizant of and very much concerned with the potential importance of future developments in the field of astronautics. We shall keep your ideas in mind in our discussion on future programs in this field.

Sincerely,

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Allen W. Dulles
Director

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OSI/HScoville:gs (25 Nov 1957)

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NOV 12 1957

Mr. Allen W. Dulles
Director, Central Intelligence Agency
2430 East St., N. W.
Washington, D. C.

Dear Mr. Dulles:

The American Rocket Society transmitted the enclosed report to the President on October 17, 1957. This report is the result of a long study by our Space Flight Committee, which is composed of a large number of the best qualified men on all fields related to space flight. The report has been reviewed and approved by the Board of Directors of our Society after intensive deliberation. We feel it represents the most informed opinion on the subject available.

The primary recommendations of the report are these:

- (1) The foreseeable utility of space vehicles is sufficient to justify a continuing federally sponsored program of considerable magnitude.
- (2) In view of the many uses of space vehicles other than the purely military variety (such as surface to surface ballistic missiles), control of this agency should not be vested exclusively in the Defense Department.
- (3) A new agency having status comparable to the Atomic Energy Commission or the National Advisory Committee for Aeronautics should be created to plan and manage the Space Flight Development Program. The Departments of State, Defense and Commerce, the Central Intelligence Agency, the scientific community and the general public should be represented on the steering committee for this agency.
- (4) The mission of this agency should be a broad one to permit farsighted planning and should include all but strictly military applications.

The report has been referred to the Scientific Advisory Council of the O.C.R. We are somewhat concerned that the problem

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may be regarded as exclusively scientific, whereas in fact, many short term utilities are not in the realm of "science" at all. We would like to suggest that, if the CIA has an interest in the matter, its views be communicated to whomever will make the final decision. We feel that the approach to the problem suggested by our society may be particularly acceptable to your agency.

Yours very truly,

SIGNED

ROBERT C. TRUAX
President

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Remarks:

This is the paper I called you about this morning. The original was delivered to Mr. Mattison (Mr. Stassen's Staff) who will give it to Dr. Killian. (We received this through our signal center in Matomic Building.)

[Redacted]

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FROM: NAME, ADDRESS AND PHONE NO.	DATE
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Draft Number Two - [] - 14 November 1957

Dear Marshall Bulganin:

Since our exchange of letters a year ago, two highly significant events have commanded the attention of the world. One is felicitous for mankind -- the other, ominously foreboding.

The happy event is the successful launching of the Russian satellites. I would be glad if, in my behalf, you would extend sincere congratulations to those responsible for this important achievement.

The tragic event is the failure of the disarmament negotiations to achieve any concrete success. Though differences have been narrowed, agreement still eludes us.

I am sure the implications of a continued technological arms race are clear and of heavy concern to you. The future will be tragic for humankind if technology remains harnessed to serve war, rather than peace and the noble purpose of man and his God.

In this letter I would like to deal with specific actions pertaining to both these events. Some of these actions I am now taking, and others I would like to suggest for your consideration.

With regard to satellites and space flight, it would seem important that our scientists and engineers work together on specific projects wherever possible. Such measures will help achieve an end we

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both prayerfully seek -- that space shall be used by men only for peaceful pursuits.

To this end, I would like to suggest that Soviet scientists launch some of the satellite instrumentations which our scientists have built for the I. G. Y. I believe such a joint project might produce certain scientific answers sooner than could either of our programs separately. It would also start us in joint endeavors for the peaceful exploration of space.

There is a second step which we should take immediately. As you know, during the recent disarmament negotiations, we suggested that an international scientific group be convened immediately to study the technical problems involved in controlling the use of space for peace. Could we not take prompt action, and thus embark immediately on yet another joint effort in space affairs?

On the horizon lies the exploration of the moon and planets. We would be pleased to examine with the Soviet Government the possibility of pooling our resources for interplanetary exploration.

By over-flying the United States with satellites, the Soviet Government has raised the legal question of national sovereignty in the upward direction. It has been pointed out that the situation is somewhat analogous to that which led to the establishment of the three-mile sovereignty limit for international waters in relation to the range of coastal gun fire at the time. I note that your two satellites are still passing over all the countries of the world. It will surely be unusual

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in the future not to find one vehicle or another over each nation's sovereign air spaces. The Soviet vehicles have established that there are limits to national sovereignty vertically -- a position we fully accept. Undoubtedly an international group should be convened shortly to begin technical discussions on this subject.

Meanwhile, the United States Government will act on the only practical basis possible -- namely, that national sovereignty extends as high into the air spaces as defensive military aircraft can operate and thus control.

In this nuclear age, we cannot assume that higher overflights are always for peaceful purposes. I therefore suggest that we immediately work out an arrangement to provide for the prior registration and inspection of all overflight vehicles above those air spaces which most nations can today control themselves and which therefore can be considered sovereign -- namely, the practical operating height of military aircraft.

As you know from my suggestions when we met in Geneva in July 1955, I deeply believe that mutual overflying of each others territory can very beneficially serve the interests of peace. Thus, in no way does the United States Government intend to protest non-aggressive overflights by the Soviet Government, regardless of whether your vehicles are used primarily for scientific observations of space, or for observation of the earth's surface as in aerial inspection. It has been intimated that observation of United States military activity is or will

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be accomplished by Soviet satellites. If so, I welcome this initiative by the Soviet Government as a concrete step toward aerial inspection.

As a second step to facilitate aerial inspection, I have designated (Unnamed) Air Base in Alaska as the port of entry for Soviet aerial inspection aircraft. From today, you may notify the commander of that air base of the route from Siberia and estimated arrival times of your inspection aircraft. He will arrange for refueling, maintenance, interim landings of your inspection aircraft while over United States territory, for their inspection and the boarding of a United States monitoring official, and for the priority clearance of their flight plan through our air traffic control system to fly where you may like over the United States.

As you are aware, we are not dependent on USSR bases for our overflights. Therefore, I have ordered our aerial inspection of the USSR to commence, but at altitudes greatly in excess of USSR sovereign air spaces -- that is, at altitudes considerably greater than those normally defended by Soviet aircraft. The special vehicles and balloons we have built for this peaceful purpose are of course unarmed, and will fly so high that most will probably not be seen. But if they should have unforeseen difficulties, I am confident that the Soviet Government will provide for their safe return.

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If you would prefer to put our aerial inspection of the U.S.S.R. on the same basis as we have offered to you--namely, from a Soviet port of entry and lower altitude flights within Soviet sovereign air space--we will be pleased to operate under an analogous arrangement. But the above interim system will suffice until hopefully you may be able to designate a port of entry and arrange other particulars for normal aerial inspection.

Additionally, the U.S. has under construction a satellite for aerial inspection, to supplement aircraft used for this purpose. We intend to commence test flights in 1959. Assuming that a U.N. arms-control agency is then in operation, we expect to make results from this inspection satellite available to that agency. In this connection your Government might wish to collaborate with us in making the best possible satellite inspection system available to the U.N.

With further reference to the subject of disarmament, I would like to tell you of the other actions the U.S. Government is now taking in an effort to break the deadlock and bridge the slim remaining gap that unfortunately failed of negotiation in the recent parleys.

1. The U.S. Government has suspended all test of nuclear weapons, provided that no other nation conducts such test, provided that international inspection to control such a limitation is installed within one year, and provided that an agreement is reached and controls installed within two years so that henceforth all nuclear materials are produced for peaceful and not military purposes.

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2. With regard to the question of inspection at ground control posts which you urged upon me at Geneva, we are prepared to receive immediately up to 500 Soviet inspectors in the U.S. for one year and arrange for their posting to watch our military movements at airfields, ports, railway centers and other such points of your choice. The arrangement can be extended if within this period, we can install a similar number in the U.S.S.R., or hopefully negotiate a more complete international agreement that would extend the area and objects of such control, and would also provide for mobile ground inspection operations.

3. Within six months the U.S. Government will reduce the number of its military effectives to 2,500,000. If the Soviet Government takes similar action, and if we can install a mutually satisfactory inspection system to verify conventional force levels, then the U.S. is prepared to make a further reduction.

4. With regard to renouncing the use of nuclear weapons, the U.S. has already renounced to clarify in an international convention just what is meant by their use in self-defense against both conventional and nuclear aggressions.

Further to advance disarmament action, I am today writing President (unnamed) of the U.N. General Assembly to tell him of our plans to construct an inspection satellite and to offer its results to a U.N. arms control agency. I will also tell him of an aerial inspection force which we are organizing to place under the control of such an agency, to cover areas of the world not inspected under mutual arrangements.

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I shall also point out that all results from U. S. inspection efforts will be made available to a U. N. agency, on request.

I feel sure you will regard sympathetically this action to break the disarmament deadlock and to move concretely to free technology better to serve mankind in his peaceful pursuits. If our collaboration to this end can be advanced by meeting to discuss comments you may have regarding the above, and our possible future actions, I will be delighted to meet under U. N. auspices with you and with the heads or such other U. N. Governments as may be appropriate.

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